

Scaled data based on original data using  
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P1037254

Luminaire Tested: S123DS-B1000DB40-4F0-XX-W2A-D

Issue Date: 5/2/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1037254  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-15)  
Test Lab: INNOVATION CENTER  
Issue Date: 5/2/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S123DS-B1000DB40-4F0-XX-W2A-D  
Description: Define 3 Direct Surface with 4000K BioUP LEDs {m-DER=0.865} {m-EER=0.951}  
Light Source: -  
Ballast/Driver: -

**Summary**

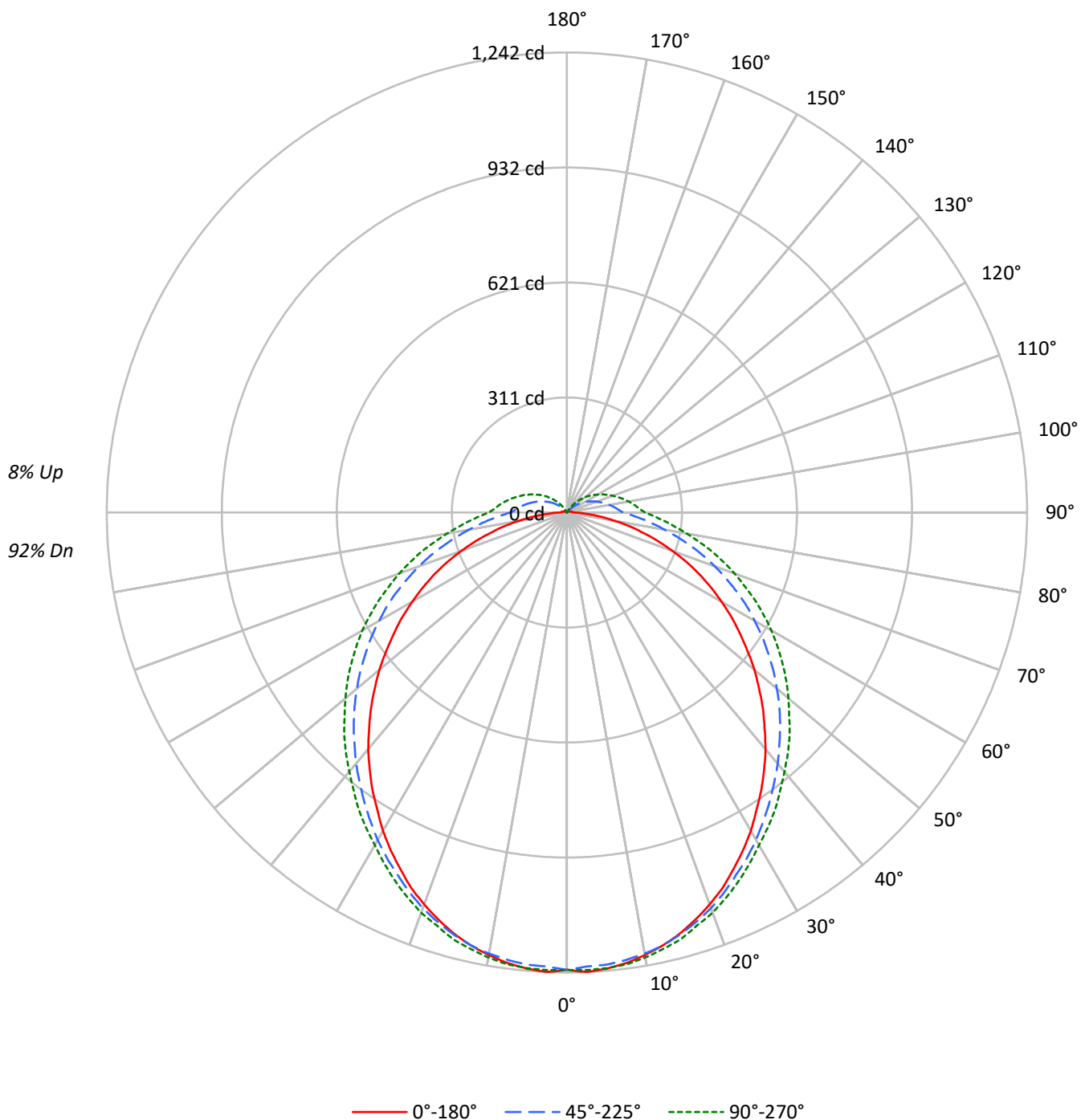
Lumens per Lamp: N/A  
Luminaire Lumens: 4150.0 lumens  
Efficiency: N/A  
Efficacy: 88.7 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.25 / 1.37  
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 46.8  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT

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### Luminous Intensity Polar Plot



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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |    |    |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|
| RF  | 20  |     |     |     | 20  |     |     |     | 20  |     |     |     | 20  |     |    |    | 20 |
| RC  | 80  |     |     |     | 70  |     |     |     | 50  |     |     |     | 30  |     |    |    | 10 |
| RW  | 70  | 50  | 30  | 10  | 70  | 50  | 30  | 10  | 50  | 30  | 10  | 50  | 30  | 10  | 50 | 30 | 10 |
| RCR |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |    |    |
| 0   | 117 | 117 | 117 | 117 | 113 | 113 | 113 | 113 | 106 | 106 | 106 | 100 | 100 | 100 | 94 | 94 | 94 |
| 1   | 105 | 100 | 95  | 90  | 102 | 97  | 92  | 88  | 91  | 87  | 84  | 85  | 82  | 80  | 80 | 78 | 76 |
| 2   | 95  | 86  | 79  | 72  | 92  | 83  | 77  | 71  | 79  | 73  | 68  | 74  | 69  | 65  | 70 | 66 | 63 |
| 3   | 86  | 75  | 67  | 60  | 83  | 73  | 65  | 59  | 69  | 62  | 56  | 65  | 59  | 54  | 61 | 56 | 52 |
| 4   | 79  | 66  | 57  | 50  | 76  | 64  | 56  | 49  | 61  | 54  | 48  | 57  | 51  | 46  | 54 | 49 | 45 |
| 5   | 72  | 59  | 50  | 43  | 70  | 58  | 49  | 42  | 54  | 47  | 41  | 52  | 45  | 40  | 49 | 43 | 39 |
| 6   | 67  | 53  | 44  | 37  | 64  | 52  | 43  | 37  | 49  | 42  | 36  | 47  | 40  | 35  | 44 | 38 | 34 |
| 7   | 62  | 48  | 39  | 33  | 60  | 47  | 38  | 32  | 45  | 37  | 32  | 42  | 36  | 31  | 40 | 35 | 30 |
| 8   | 58  | 44  | 35  | 29  | 56  | 43  | 35  | 29  | 41  | 33  | 28  | 39  | 32  | 28  | 37 | 31 | 27 |
| 9   | 54  | 40  | 32  | 26  | 52  | 39  | 31  | 26  | 37  | 30  | 25  | 36  | 29  | 25  | 34 | 28 | 24 |
| 10  | 50  | 37  | 29  | 24  | 49  | 36  | 29  | 24  | 35  | 28  | 23  | 33  | 27  | 23  | 32 | 26 | 22 |

**AVERAGE LUMINANCE (cd/sqm):**

|     | 0°    | 45°   | 90°   |
|-----|-------|-------|-------|
| 0°  | 13291 | 13291 | 13291 |
| 5°  | 13357 | 13240 | 13342 |
| 10° | 13261 | 13218 | 13335 |
| 15° | 13116 | 13146 | 13281 |
| 20° | 12897 | 13019 | 13174 |
| 25° | 12621 | 12828 | 13036 |
| 30° | 12338 | 12690 | 12890 |
| 35° | 12019 | 12532 | 12868 |
| 40° | 11719 | 12437 | 12833 |
| 45° | 11385 | 12388 | 12941 |
| 50° | 11061 | 12388 | 13065 |
| 55° | 10702 | 12446 | 13328 |
| 60° | 10368 | 12596 | 13726 |
| 65° | 10038 | 12883 | 14253 |
| 70° | 9526  | 13379 | 15157 |
| 75° | 8896  | 14323 | 16839 |
| 80° | 8257  | 16674 | 20344 |
| 85° | 8139  | 25256 | 32555 |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 90°

Vertical Angle: 87.5°

Luminance: 58089 cd/sqm

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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 117.1  | 2.8       |
| 10°-20°   | 333.9  | 8.0       |
| 20°-30°   | 499.4  | 12.0      |
| 30°-40°   | 596.2  | 14.4      |
| 40°-50°   | 623.8  | 15.0      |
| 50°-60°   | 585.4  | 14.1      |
| 60°-70°   | 489.0  | 11.8      |
| 70°-80°   | 349.6  | 8.4       |
| 80°-90°   | 208.0  | 5.0       |
| 90°-100°  | 130.7  | 3.2       |
| 100°-110° | 96.1   | 2.3       |
| 110°-120° | 64.2   | 1.5       |
| 120°-130° | 36.6   | 0.9       |
| 130°-140° | 16.4   | 0.4       |
| 140°-150° | 3.4    | 0.1       |
| 150°-160° | 0.0    | 0.0       |
| 160°-170° | 0.0    | 0.0       |
| 170°-180° | 0.0    | 0.0       |
| <hr/>     |        |           |
| 0°-30°    | 950.4  | 22.9      |
| 0°-40°    | 1546.6 | 37.3      |
| 0°-60°    | 2755.9 | 66.4      |
| 0°-90°    | 3802.5 | 91.6      |
| 90°-120°  | 291.0  | 7.0       |
| 90°-150°  | 347.5  | 8.4       |
| 90°-180°  | 347.0  | 8.4       |
| 0°-180°   | 4150.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|      | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|------|------|-------|------|-------|------|------|
| 0°   | 1235 | 1235  | 1235 | 1235  | 1235 |      |
| 5°   | 1236 | 1234  | 1225 | 1236  | 1235 | 117  |
| 15°  | 1177 | 1181  | 1180 | 1193  | 1192 | 332  |
| 25°  | 1063 | 1076  | 1080 | 1098  | 1098 | 490  |
| 35°  | 915  | 936   | 954  | 974   | 979  | 572  |
| 45°  | 748  | 780   | 814  | 839   | 850  | 577  |
| 55°  | 570  | 615   | 663  | 700   | 710  | 511  |
| 65°  | 394  | 447   | 506  | 546   | 560  | 390  |
| 75°  | 214  | 277   | 344  | 389   | 405  | 228  |
| 85°  | 66   | 133   | 204  | 250   | 264  | 68   |
| 90°  | 18   | 83    | 152  | 198   | 211  | 13   |
| 95°  | 15   | 67    | 133  | 175   | 188  | 12   |
| 105° | 11   | 43    | 101  | 138   | 151  | 11   |
| 115° | 7    | 23    | 71   | 104   | 114  | 7    |
| 125° | 4    | 4     | 43   | 71    | 81   | 4    |
| 135° | 3    | 1     | 16   | 40    | 47   | 2    |
| 145° | 1    | 0     | 0    | 11    | 16   | 1    |
| 155° | 0    | 0     | 0    | 0     | 0    | 0    |
| 165° | 0    | 0     | 0    | 0     | 0    | 0    |
| 175° | 0    | 0     | 0    | 0     | 0    | 0    |
| 180° | 0    | 0     | 0    | 0     | 0    | 0    |

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**CANDELA DISTRIBUTION (FULL):**

|        | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|--------|--------|--------|--------|--------|--------|
| 0°     | 1234.8 | 1234.8 | 1234.8 | 1234.8 | 1234.8 |
| 2.5°   | 1241.6 | 1237.5 | 1226.8 | 1237.5 | 1236.2 |
| 5°     | 1236.2 | 1233.5 | 1225.4 | 1236.2 | 1234.8 |
| 7.5°   | 1226.8 | 1226.8 | 1218.7 | 1232.1 | 1230.8 |
| 10°    | 1213.3 | 1216.0 | 1209.3 | 1222.7 | 1220.0 |
| 12.5°  | 1197.2 | 1201.2 | 1197.2 | 1209.3 | 1206.6 |
| 15°    | 1177.0 | 1181.0 | 1179.7 | 1193.1 | 1191.8 |
| 17.5°  | 1152.8 | 1160.8 | 1159.5 | 1171.6 | 1168.9 |
| 20°    | 1125.9 | 1133.9 | 1136.6 | 1148.7 | 1150.1 |
| 22.5°  | 1097.6 | 1105.7 | 1109.7 | 1125.9 | 1124.5 |
| 25°    | 1062.7 | 1076.1 | 1080.1 | 1097.6 | 1097.6 |
| 27.5°  | 1029.0 | 1043.8 | 1051.9 | 1066.7 | 1068.0 |
| 30°    | 992.7  | 1010.2 | 1021.0 | 1037.1 | 1037.1 |
| 32.5°  | 952.4  | 972.5  | 987.3  | 1004.8 | 1008.8 |
| 35°    | 914.7  | 936.2  | 953.7  | 973.9  | 979.3  |
| 37.5°  | 874.3  | 898.5  | 918.7  | 941.6  | 945.6  |
| 40°    | 834.0  | 858.2  | 885.1  | 908.0  | 913.3  |
| 42.5°  | 789.6  | 820.5  | 848.8  | 874.3  | 882.4  |
| 45°    | 747.9  | 780.2  | 813.8  | 839.4  | 850.1  |
| 47.5°  | 703.5  | 739.8  | 777.5  | 805.7  | 813.8  |
| 50°    | 660.5  | 698.1  | 739.8  | 770.8  | 780.2  |
| 52.5°  | 614.7  | 655.1  | 702.2  | 734.4  | 746.5  |
| 55°    | 570.3  | 614.7  | 663.2  | 699.5  | 710.2  |
| 57.5°  | 527.3  | 573.0  | 625.5  | 661.8  | 673.9  |
| 60°    | 481.6  | 530.0  | 585.1  | 622.8  | 637.6  |
| 62.5°  | 438.5  | 488.3  | 547.5  | 585.1  | 598.6  |
| 65°    | 394.1  | 446.6  | 505.8  | 546.1  | 559.6  |
| 67.5°  | 349.7  | 404.9  | 464.1  | 508.5  | 519.2  |
| 70°    | 302.7  | 360.5  | 425.1  | 468.1  | 481.6  |
| 72.5°  | 259.6  | 317.5  | 384.7  | 429.1  | 442.5  |
| 75°    | 213.9  | 277.1  | 344.4  | 388.7  | 404.9  |
| 77.5°  | 174.9  | 238.1  | 305.3  | 352.4  | 364.5  |
| 80°    | 133.2  | 199.1  | 269.0  | 314.8  | 328.2  |
| 82.5°  | 96.8   | 164.1  | 235.4  | 281.1  | 294.6  |
| 85°    | 65.9   | 133.2  | 204.5  | 250.2  | 263.6  |
| 87.5°  | 40.4   | 107.6  | 176.2  | 221.9  | 235.4  |
| 90°    | 17.5   | 83.4   | 152.0  | 197.7  | 211.2  |
| 92.5°  | 16.1   | 74.0   | 141.2  | 185.6  | 197.7  |
| 95°    | 14.8   | 67.3   | 133.2  | 174.9  | 188.3  |
| 97.5°  | 13.5   | 61.9   | 125.1  | 165.5  | 178.9  |
| 100°   | 12.1   | 55.2   | 117.0  | 156.0  | 169.5  |
| 102.5° | 10.8   | 48.4   | 109.0  | 146.6  | 160.1  |
| 105°   | 10.8   | 43.0   | 100.9  | 138.5  | 150.7  |
| 107.5° | 9.4    | 37.7   | 92.8   | 129.1  | 141.2  |
| 110°   | 8.1    | 32.3   | 86.1   | 121.1  | 131.8  |



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**CANDELA DISTRIBUTION (continued):**

|        | 0°  | 22.5° | 45°  | 67.5° | 90°   |
|--------|-----|-------|------|-------|-------|
| 112.5° | 8.1 | 26.9  | 78.0 | 111.6 | 123.8 |
| 115°   | 6.7 | 22.9  | 71.3 | 103.6 | 114.3 |
| 117.5° | 6.7 | 17.5  | 63.2 | 95.5  | 106.3 |
| 120°   | 5.4 | 12.1  | 56.5 | 87.4  | 96.8  |
| 122.5° | 5.4 | 8.1   | 49.8 | 79.4  | 88.8  |
| 125°   | 4.0 | 4.0   | 43.0 | 71.3  | 80.7  |
| 127.5° | 4.0 | 2.7   | 36.3 | 63.2  | 72.6  |
| 130°   | 4.0 | 2.7   | 29.6 | 55.2  | 63.2  |
| 132.5° | 2.7 | 2.7   | 22.9 | 47.1  | 56.5  |
| 135°   | 2.7 | 1.3   | 16.1 | 40.4  | 47.1  |
| 137.5° | 2.7 | 1.3   | 10.8 | 32.3  | 39.0  |
| 140°   | 1.3 | 1.3   | 5.4  | 25.6  | 32.3  |
| 142.5° | 1.3 | 0.0   | 0.0  | 17.5  | 24.2  |
| 145°   | 1.3 | 0.0   | 0.0  | 10.8  | 16.1  |
| 147.5° | 0.0 | 0.0   | 0.0  | 4.0   | 9.4   |
| 150°   | 0.0 | 0.0   | 0.0  | 0.0   | 2.7   |
| 152.5° | 0.0 | 0.0   | 0.0  | 0.0   | 0.0   |
| 155°   | 0.0 | 0.0   | 0.0  | 0.0   | 0.0   |
| 157.5° | 0.0 | 0.0   | 0.0  | 0.0   | 0.0   |
| 160°   | 0.0 | 0.0   | 0.0  | 0.0   | 0.0   |
| 162.5° | 0.0 | 0.0   | 0.0  | 0.0   | 0.0   |
| 165°   | 0.0 | 0.0   | 0.0  | 0.0   | 0.0   |
| 167.5° | 0.0 | 0.0   | 0.0  | 0.0   | 0.0   |
| 170°   | 0.0 | 0.0   | 0.0  | 0.0   | 0.0   |
| 172.5° | 0.0 | 0.0   | 0.0  | 0.0   | 0.0   |
| 175°   | 0.0 | 0.0   | 0.0  | 0.0   | 0.0   |
| 177.5° | 0.0 | 0.0   | 0.0  | 0.0   | 0.0   |
| 180°   | 0.0 | 0.0   | 0.0  | 0.0   | 0.0   |

(END OF REPORT)